

FIRE !



It comes as a surprise to many people to learn that fire is a friend of plant species that occur in pine forests. If not for fire, sun-loving pineland plants would eventually be choked out by invading native and non-native (exotic) broad-leaved hardwood trees and shrubs. This invasion is slow but steady and is called "succession." In time, the great diversity of pineland plant species is reduced, and the animals that rely upon pineland as a habitat will disappear.

Before the arrival of human settlers in South Florida, lightning periodically ignited fires each rainy season. These fires would race through the pinelands and everglades prairies, sometimes even consuming hardwood forests, until some natural force extinguished the flames. This usually came in the form of rain. These fires would burn in irregular patterns leaving a mosaic of burned and unburned vegetation in their path. This mosaic pattern would create "islands" of refuge for animals to escape the flames and would also leave a food source for those animals that live in pinelands, such as bobwhite, cottontail rabbits, cotton rats, white-tailed deer and box turtles.

Over time, fire has weeded out plant species unable to tolerate burning. All pineland plant species are adapted to survive periodic fires. Some actually rely upon fire to aid in seed germination. The slash pine survives fire in a variety of ways. When slash pine seeds germinate, the seedling remains in a "grass stage" for the first few growing seasons. This stage is characterized by needles that remain clustered tightly around the bud. It is during this stage that a strong tap root is produced, anchoring the tree firmly in crevices in the oolitic limestone substrate. Fires that occur when seedlings are in the grass stage burn off some of the outer needles but the growing bud is protected. As the tree matures, multi-layered bark only allows fire to burn through the top few layers, thus protecting the cambium layer beneath the bark. Mature slash pines also keep their lowermost branches high above the forest floor, giving them even further protection from fire.

When fire burns through a South Florida pineland, the flames consume the understory plants, which consist of saw palmetto, cabbage palm and numerous species of tropical and temperate shrubs along with many species of grasses, sedges and herbaceous wildflowers. Any invading native and exotic hardwoods are either killed or severely damaged by the fire. True pineland species, however, respond quickly with new growth. Within a few weeks following fire, pinelands literally erupt in color from the wide variety of wildflowers that suddenly find themselves free of competition for a short period. The ashes from the fire are recycled back into the earth and serve as fertilizer. Pine seeds that drop from the cones in early fall following a spring or summer burn find perfect conditions to germinate and grow with reduced competition. Fire, and the timing of the fire, is critical for the germination of slash pine seeds.

Fires that occur in the dry season are almost always caused by man. These fires can be caused by discarded cigarettes, careless campers and arson. Dry season fires can be detrimental to even fire-adapted plants. Without sufficient soil moisture, plants can die, and the soil itself can smolder for days. Dry season fires also burn with great heat and can even kill mature pine trees.

It may sound odd, but an important tool to combat potentially dangerous high fuel load wildfires is fire itself. Everglades National Park was the first national park to implement a "prescribed" fire regime. Prescribed fire is a purposely-set, closely supervised fire that is ignited only under a specific set of "prescribed" conditions. Forest managers write a "prescription" for a planned burn and list the exact conditions required to set a pineland fire. When these conditions are present, Metro-Dade Fire Department gives the burn personnel permission to ignite the fire. Prescribed burns are very often "back fires," which are short flame-length fires that are forced to burn into the wind. These are considered to

be cooler and safer fires compared to head fires that are being pushed forward by the wind, which typify wildfires.

Prescribed burns benefit the pineland habitat as well as residential areas that border pinelands. Homeowners benefit by having a fire that is being closely monitored by trained personnel with the proper fire fighting equipment at the site during the course of the burn. Outside of Everglades National Park and the Big Cypress National Preserve, prescribed burns are conducted in Dade County by qualified employees of the Florida State Division of Forestry and Metro-Dade County. Another benefit that prescribed fire offers neighboring homeowners is fuel reduction. Prescribed fires are usually set on a three to five year cycle, which helps eliminate a high fuel load buildup and therefore diminishes the chance of a dangerous wildfire becoming a threat to homes. Also, homeowners that live around pine forests are always notified prior to prescribed burns so that they will have the opportunity to make plans to avoid the smoke associated with these burns. This is a convenience not afforded to residents during wildfires.

In the event of wildfires, Metro-Dade Fire Department or the Florida State Division of Forestry will respond to the fire. Do not be surprised if foresters set "back fires" and attempt to burn off the pineland tract. If the fire is an arson fire, then the arsonists will continue to ignite new fires each time the foresters put out the fire and leave the site. The decision to extinguish the fire or ignite back fires is made on-site and depends on many factors.

Fire is a necessity if we are to save the remnant pine forests that exist in Dade County. There are currently four plant species endemic to the pine rocklands of southern Dade County, meaning they are found nowhere else in the world. These four are listed as federally endangered species, and other species are currently under review. The federally listed plants are the crenulate lead plant, deltoid spurge, Small's milkpea and Small's milkwort. None can survive for long without fire.

If you live near pine forests that are under state or county jurisdiction, please rest assured that fire managers will always make every effort possible to set prescribed burns only when conditions will limit the smoke in residential areas. Fires are always extinguished by the end of each day and are never allowed to burn through the night. In many cases, fire managers remain on-site throughout the night to ensure that the fire does not re-ignite on its own. Some of the Metro-Dade County parks and preserves that contain pine forests that require prescribed burns include the Charles Deering Estate, Tamiami Pineland Preserve, Navy Wells Pineland Preserve, Seminole Wayside Park, Camp Owaissa Bauer, Bill Sadowski Park (Old Cutler Hammock), Larry & Penny Thompson Park and MetroZoo.

Through education, we hope to gain community support for conducting prescribed burns. The inconvenience of smoke for a day or two every three to five years is a small price to pay for helping save our priceless pinelands and some of Florida's rarest plants. And within a few weeks after the fire, we can all enjoy the beautiful array of wildflowers that rise from the embers.

For further information, please feel free to contact us.

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REPORT WILDFIRES: DIAL 911

or contact the Florida State Division of Forestry at (305) 257-0875 weekdays or 757-0413 holidays and weekends.

